



# Agrivoltaics for Sustainable Development

## Summary

Country	Benin
Implementer	Centre Regional Songhai
Co-implementer	Electriciens sans frontières (ESF)
Target groups	Farmers
Duration	06/2022 – 07/2023
Type of energy use	Electrification

## Challenge

Agriculture is very important for the economy in Benin. Around two thirds of the population earn their living from this sector, and it provides 80 % of the country's export goods. Despite its significance, the development of the agricultural sector is subject to numerous challenges. One of these is the lack of reliable electricity, which leads to the continued prevalence of diesel generators in many agribusinesses. Another challenge are the effects of climate change, which are also increasingly felt among farmers. These include a decrease in off-season crops due to unfavourable climatic conditions or irrigation problems due to limited water availability.

## Impact Logic

Centre Songhai is a training institution promoting agricultural entrepreneurship and sustainable farming practices in West Africa. ESF is a voluntary organisation supporting sustainable access to electricity and water worldwide. For this project, both organisations combine their individual expertise in agricultural practices and renewable energy technologies to design and install two dual-use PV systems (agrivoltaics). The aim of the project is to showcase the benefits and economic potential to farmers. The first system, comprised of two distinct solar PV layouts (15 kWp each),

is installed at the premises of Centre Songhai in Porto-Novo. It is used to experiment with different crops and serves as a demonstration site for the thousands of visitors that the centre receives every year. A second system (10 kWp) is installed at one of Songhai's flagship farms in Agbangnizoun, in Benin's Zou region. Throughout the project, the implementing organisations collect data to determine the conditions for replication and scale-up. The potentials of the approach are (1) to decrease competition around arable land; (2) to lower the water demand for cultivation of crops by providing shade and powering efficient solar irrigation systems; (3) to decrease the dependence on fossil fuels and support energy autonomy; and (4) to increase agricultural productivity and thereby income.

## Innovative Project Elements

The two agrivoltaics systems installed in the course of this project are among the first in Benin and therefore display a strong pilot character. With some experience, agrivoltaics creates the potential of using one piece of land twice – for the production of renewable electricity as well as for agricultural use. Centre Songhai, with its network of 5,200 farmers and numerous apprentices each year, ensures that the knowledge gained on this technology reaches as many people as possible. The potential of replication and further dissemination of agrivoltaics in the region is high.

## FURTHER INFORMATION

[www.gruene-buergerenergie.org](http://www.gruene-buergerenergie.org)

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